

CLAIMS

1. An SOI wafer in which a base wafer and a bond wafer respectively consisting of silicon single crystal are bonded via an oxide film, and then the bond wafer is thinned to form a silicon active layer, wherein the base wafer is formed of silicon single crystal grown by Czochralski method, and the whole surface of the base wafer is within N region outside OSF region and doesn't include a defect region detected by Cu deposition method, or the whole surface of the base wafer is within a region outside OSF region, doesn't include a defect region detected by Cu deposition method, and includes I region containing dislocation cluster due to interstitial silicon.

2. The SOI wafer according to Claim 1, wherein the SOI wafer is produced by ion implantation delamination method in which ions are implanted into the bond wafer and the bond wafer is thinned by delamination at the ion-implanted layer.

3. The SOI wafer according to Claim 1 or 2, wherein a thickness of the oxide film is in the range from 10 to 100 nm.

4. The SOI wafer according to any one of claims 1 - 3, wherein the silicon active layer consists of silicon single crystal grown by Czochralski method, and the whole surface of the silicon active layer is within N region outside OSF region and doesn't include defect region detected by Cu deposition method.

5. A method for producing an SOI wafer comprising at least the steps of, forming an oxide film at least on one of a base wafer and a bond wafer respectively consisting of silicon single crystal, implanting ions into the bond wafer to form an ion-implanted layer, bonding the surface of the ion-implanted side of the bond wafer and the base wafer via the oxide film, and delaminating the bond wafer at the ion-implanted layer as a boundary, wherein the base wafer is used, which is formed of silicon single crystal grown by Czochralski method, and the whole surface of the base wafer is within N region formed at lower speed than OSF region generated in a ring shape when grown with gradually decreasing pulling rate from high speed to low speed, and doesn't include defect region detected by Cu deposition method, or the whole surface of the base wafer is within a region formed at lower speed than OSF

region generated in a ring shape when grown with gradually decreasing pulling rate from high speed to low speed, doesn't include defect region detected by Cu deposition method, and includes I region containing dislocation cluster due to interstitial silicon.

6. The method for producing an SOI wafer according to claim 5, wherein the bond wafer is used, which is formed of silicon single crystal grown by Czochralski method, and of which the whole surface is within N region formed at lower speed than OSF region generated in a ring shape when grown with gradually decreasing pulling rate from high speed to low speed and doesn't include defect region detected by Cu deposition method.